OPERATING INSTRUCTIONS

Version 01/13

CE

Flush-mounted remote switch ‘FS20 SU-3’

Item no. 62 02 96

Introduction

GB

Dear customer,

Thank you for purchasing this product.

This product meets the requirements of both current European and national guidelines.

In order to preserve this condition and ensure the safe operation of the product we kindly ask you to carefully follow these operating instructions!

Please read the operating instructions completely and observe the safety and operation notes before using the product!

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1. Prescribed use

The flush-mounted remote switch 'FS20 SU-3' is only suitable for use with the FS20 wireless control system. It must be operated in a flush-mounted socket.

A consumer load connected to the remote switch (please see the technical specifications and features) can be wirelessly switched on or off via the wireless control system's transmitters. Another feature is the integrated programmable timer function.

Any use other than the one described above may damage the product and can also increase the risk of short-circuit, fire, electric shock, etc.

No part of the product may be modified or adapted. The device may only be operated when its casing is fully closed.

All the safety instructions and installation notes in this manual must be observed without fail.

2. Scope of delivery

- Remote switch
- User manual

3. Explanation of icons

The icon with a lightning flash in a triangle is used to alert you to potential personal injury hazards such as electric shock.

The icon with an exclamation mark in a triangle points to important instructions in this user manual that must be observed.

The 'hand' symbol provides special information and advice on operating the device.

4. Technical specifications and features

- Operating voltage: ..... 230 V/AC, 50 Hz
- Power consumption: ..... approx. 0.5 W
- Breaking capacity: ..... max. 1380 VA (230 V/AC, 6 A)
- Reception frequency: ..... 868.35 MHz
- Range: ..... up to 50 m (in free-field)
- Dimensions: ..... 32 x 57 mm (diameter)
- Programmable timer duration: ... 1 second to 270 minutes (=4 hours 30 min)
- Memory conservation also without power supply (for instance, during a power outage)

5. General information

In selecting the programmable flush-mounted remote switch 'FS20 SU-3' you have purchased a versatile device that is easy to use and conveniently allows you to wirelessly switch electrical, mains-operated devices over long distances.

You can operate the remote switch via a button that can be connected to the device, at distances of up to 50 m using the FS20 wireless control system's remote controls and using other remote switch transmitters. Please also see section 14.

In addition to the switch function, a timer can also be programmed with a on-time of between 1 second and 270 minutes (4 hours 30 min). After this time has elapsed the remote switch switches off automatically.

All the programmed data is permanently stored in an integrated memory, even when a power failure occurs.

The remote switch should be installed in a standard flush-mounted socket or a flush-mounted distributor. When installed in a deep flush-mounted box, it can also be installed behind a flat installation switch/button.

The maximum output load capacity of the remote switch is 1380 VA.

Please note:

This user manual refers primarily to operation using a remote control from the FS20 wireless control system, with 2 buttons per channel. When using other remote controls, please refer to their respective user manuals.

6. Safety instructions

The product's guarantee becomes invalid if the product is damaged as a result of failure to observe these operating instructions. We do not assume any liability for any resulting damages!

Nor do we assume liability for damage to property or personal injury caused by improper use or failure to observe the safety instructions. In such cases the product's guarantee becomes invalid!

- Do not use this product in hospitals or medical institutions. Although the FS20 wireless control system only emits relatively weak radio signals, these may cause life-support systems to malfunction.

  This may also be the case in other areas.
- For safety and licensing (CE) reasons any unauthorised alterations to and/or modification of the product are not permitted.
- Voltage/power may only be supplied via the public power supply (230 V/AC, 50 Hz).
- This product is not a toy. Devices operated via the supply voltage should be kept out of the reach of children. Therefore, take particular care when children are around.
- Do not leave packaging material lying around. This may become a dangerous plaything in the hands of children.
- To connect the device to the supply voltage as well as the consumer load or loads, work must be carried out on the supply voltage or on live voltage-carrying parts.

  First of all, switch off the electric circuit in which the wireless transmitter is to be included. For this purpose switch off the respective circuit breaker or remove the mains fuse in the house distribution.

  Make sure that nobody accidentally switches on the electrical circuit (safety warning on the in-house distributor, mechanical block, etc.).

  Then use a suitable measuring device, to check whether the affected electric circuit is fully voltage-free.

  The same applies when replacing the fuse.
- Operation of the remote switch is only permitted, if it is correctly installed in an installation box. The installation box must have a suitable cover.
- Only people who are appropriately trained are permitted to carry out work on voltage-carrying parts. If you are not appropriately trained, please consult a qualified electrician who is authorised to carry out such work.

- Make sure you only load the product up to the capacity indicated. An overload may lead to the destruction of the device, a fire or an electrical accident.

  Note the varying maximum load capacity.

- Only use approved installation cables.

  Flexible cables are not permitted in fixed installations. The only exceptions are the control cables that are soldered to the device and that are fitted in the factory with wire-end sleeves to ensure correct wiring.

  If you need to lengthen the control cables, you must use suitable terminal strips. Do not shorten the control cables!

- The product may only be used in dry indoor areas.
- The accident-prevention regulations, established by the Employer's Liability Insurance Association for electrical equipment and facilities, must be adhered to in commercial facilities.
- Consult a skilled technician if you have doubts about the mode of operation, safety or connection of the device.
- Handle the product with care; knocks, blows or even a fall from a low height can damage it.

7. Preparing for operation, installation

Before assembling and using the device, make sure you take note of all the safety and assembly instructions in this user manual.

Only people who are appropriately trained are permitted to carry out work on voltage-carrying parts. If you are not appropriately trained, please consult a qualified electrician who is authorised to carry out such work.

Any incorrect work carried out on the supply voltage may lead to a fatal electric shock. Not only do you endanger your life, you also endanger the life of others!

Only use approved installation cables for connecting the remote switch.

The installation location is, amongst other things, determined by two important factors:

- Any cabling that may already exist
- Good radio reception

We therefore recommend that you test the radio reception at the installation location.

It is very important to observe the order of the following steps during installation!

a) First of all, switch off the electrical circuit in which the remote switch is to be included.

For this purpose switch off the respective circuit breaker or remove the mains fuse in the house distribution.

Make sure that nobody accidentally switches on the electrical circuit (safety warning on the in-house distributor, mechanical block, etc.).

Then use a suitable measuring device, to check whether the affected electric circuit is fully voltage-free.

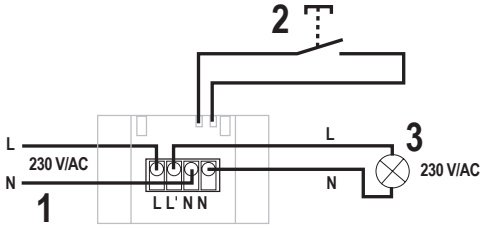
b) Strip the skinners of the power cable and the cable to the controlled consumer load to a length of 8 mm, without damaging the bare wires.

Please note that no flexible wires are permitted in fixed installations. The exceptions here are the control cables going to the control button. Use without fail suitable wire-end sleeves for the insulated multi-wire conductors!

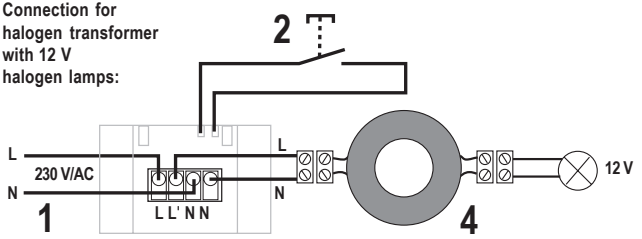
c) Wire the remote switch with the installation cables as shown in the diagram below. Connect the installation button for programming the remote switch, even if you only intend to control it later by remote control.

Check that all connections are securely fixed to the installation terminals.

Connection for 230 V lamps or other 230 V consumer loads:



Connection for halogen transformer with 12 V halogen lamps:



1 Input, connection to the supply voltage 230 V/AC, 50 Hz, L = black, N = blue

2 Buttons with cables (red cable with wire-end sleeves, do not shorten, extension possible using the terminal strips or socket terminals)

3 Light bulb 230 V/AC

4 halogen transformer with 12 V downstream lamps

d) Insert the remote switch into the installation box and then install the button (if you are using a deep installation box).

Otherwise, the installation box in which the remote switch is installed must be closed with a suitable cover.

8. Initial operation and programming

a) Initial operation

Switch on the electric circuit in which the remote switch and the lamp (or the standard halogen transformer with the 12 V lamps or other consumer loads) are installed.

Test whether the remote switch works using the connected button:

- Press the button **briefly** ➔ Lamp/consumer load on
- Press the button **briefly** again ➔ Lamp/consumer load off

Please note:

In order to be able to control the remote switch from a remote control, programming to at least one address type from the FS20 address system is necessary.

The set-up of the address type is carried out according to the user manual of the remote control transmitter.

The remote switch does not respond to radio commands in the delivery state!

b) Programming

After the function test, program the remote switch to a specific channel of the remote control that is in use:

- Press the control button connected to the remote switch for at least 5 seconds. The remote switch is now in learning mode.
- Press the required button on your remote control.

  Once the remote switch has received the code, the associated button combination on the remote control can be used to switch the consumer load connected to the remote switch (e.g., a lamp). See the above information under item a).

If required, you can repeat these programming steps, using another button on the remote control or another remote control channel. To do this, proceed again as described above.

9. Operation

a) Using the remote control

You can find detailed instructions regarding operation of the respective remote control transmitter in its accompanying user manual.

Here, we only provide operating instructions for a remote control transmitter with two buttons per remote control channel:

Switching on: **Briefly** press the right button of the programmed button combination

Switching off: **Briefly** press the left button of the programmed button combination

b) Direct operation

If required, the connected lamp (or other consumer load) can be switched on and off using a button connected to the remote switch.

Switching on/off Briefly press the control button connected to the remote switch. The consumer load's switch status changes each time you press the button (on, off, on, off, etc.).

Do not press the button for longer than a maximum of 5 seconds, otherwise you will activate the programming mode!

10. Timer function

a) General information

The remote switch can also be used as a timer.

As soon as a switching time has been programmed (1 second to 270 minutes, =4 hours 30 min) the remote switch remains switched on for the programmed length of time after each power-on command. It switches off automatically after this time has elapsed.

Please note:

A remote control for the FS20 system is needed to program the timers.

Once a timer is programmed, it can only be stopped by deactivating the timer functions!

b) Programming the timer

1. **Simultaneously** press the button combination that is assigned to the remote switch on the remote control for one to three seconds (1 sec to 3 sec).
2. The time measurement for the timer starts.
3. Wait the desired amount of time and then press both buttons on the remote control again **simultaneously** for one to three seconds (1 sec to 3 sec). The timer duration is now programmed.

Please note:

If the time measurement is not ended manually, the timer programming mode will automatically be abandoned after 270 minutes (4 hours 30 min). The timer is then programmed with a time of 270 minutes (4 hours 30 min).

c) Starting the timer process

There are two different ways to start the timer process:

- Briefly press the control button connected to the remote switch.
- Briefly press the **right** button of the assigned button combination on your remote control.

d) Prematurely switching off the timer process

The remote switch can be prematurely and manually switched off at any time during the timer process. There are two different ways in which to do this:

- Briefly press the control button connected to the remote switch.
- Briefly press the **left** button of the assigned button combination on the remote control.

e) Deactivating the timer function

- Hold down the pair of buttons on your remote control assigned to the remote switch for 1 to 3 seconds simultaneously.
- Now press the control button connected to the remote switch shortly. Time programming mode is exited and the timer function is deactivated.

  The remote switch can be used again in normal manual switching mode.

f) Activating/deactivating the programmed timer

If you do not wish to use the timer temporarily but intend to keep the programmed time, the timer can be deactivated. This puts the remote switch in normal manual switching mode. When needed, the timer can be used again without re-programming the time.

Deactivating the timer:

- Hold down the pair of buttons on your remote control assigned to the remote switch for 1 to 3 seconds simultaneously.
- The control lamp of the remote switch starts flashing.
- Hold down the left button of the pair of buttons assigned on your remote control for more than 0.4 seconds (but less than 3 seconds!).
- Now the remote switch can be switched manually. The timer is deactivated.

Re-activating the timer:

- Hold down the pair of buttons on your remote control assigned to the remote switch for 1 to 3 seconds simultaneously.
- The control lamp of the remote switch starts flashing.
- Hold down the right button of the pair of buttons assigned on your remote control for more than 0.4 seconds (but less than 3 seconds!). Now the timer is activated again and can be started when switched on the next time.

11. Integrating the remote switch into the FS20 address system

The remote switch can be integrated into the address system of the FS20 wireless control system via the latter's addressing scheme using single addresses, function groups, local and global masters. More detailed information on exactly how this address system is structured is provided in the user manual of each transmitter belonging to the FS20 wireless control system.

a) Assigning further addresses/address types

Up to four address types can be assigned to the remote switch within the address system of the FS20 wireless control system. This makes it possible, for example to operate the remote switch remotely from several transmitters with the same or different address types.

You can find more detailed information on the address system in the user manual of each remote control belonging to the FS20 wireless control system.

To assign several address types to the remote switch, repeat the programming steps described in section 8. b). You can create a list of up to four addresses or address types in the remote switch's memory.

b) Deleting addresses and address types

If you want to delete a reception channel from the saved list, set the remote switch to the programming mode (see section 8. b) and press one of the buttons assigned to this remote switch on the respective remote control for **longer** than 0.4 seconds.

Afterwards, the programming mode is automatically abandoned and the corresponding channel is deleted from the remote switch's address list.

12. Resetting to the delivery state

If required, you can delete all the settings that are stored in the remote switch at once. Proceed as follows:

- Press the control button connected to the remote switch for at least 5 seconds. The remote switch is now in programming mode (also see section 8. b).
- Press the control button **again**. All stored addresses and the timer mode with its programmed timer duration are deleted or deactivated.

The remote switch no longer responds to any remote commands and must be programmed again, see section 8. b).

13. Handling

The product should only be used in dry indoor areas.

Never use the product immediately after it has been brought from a cold room into a warm one. The condensation that forms could damage the device!

Allow the device to reach room temperature before switching it on. This may take several hours. Only then should the product be installed, connected to the supply voltage and put into operation.

Never touch the remote switch or the connected devices/cables with wet or damp hands!

Make sure that the insulation of the entire product is neither damaged nor destroyed.

Always check the product for damage before using it!

If you detect any damage, do NOT connect the product to the supply voltage! Life-threatening danger!

If the product is not operated for a longer period, disconnect the product from the supply voltage.

Avoid the following adverse ambient conditions at the installation location or during transport:

- Moisture or excessive air humidity
- Extreme cold or heat
- Dust or flammable gases, vapours or solvents
- Strong vibrations
- Strong magnetic fields such as those found near machines or loudspeakers

Operation of the remote switch is only permitted, if it is installed in an approved installation box.

The device is completely maintenance-free. For this reason, you should never open it.

Please let a professional workshop carry out the necessary maintenance and repairs!

14. Tips and notes

Ranges and interference

- The FS20 wireless control system works in the 868 MHz range, which is also used by other radio services. Therefore devices that operate on the same or neighbouring frequency may restrict both its operation and its range.
- The specified range of up to 50 m is the free-field range, which means the range with visual contact between the transmitter and receiver. In practice, however, walls, ceilings, etc. between the transmitter and the receiver may affect and reduce the range.

Other causes of reduced ranges:

- All types of high-frequency interference
- Any buildings or vegetation
- Conductive metal parts that are located near the devices or within or near their transmission path, for example, radiators, metallised insulation glass windows, reinforced concrete ceilings, etc.
- Influence on the radiation pattern of antennas due to the distance from the transmitter or receiver to conductive surfaces or objects (also to human bodies or the ground)
- Broadband interference in urban areas that reduces the signal-to-noise ratio; the signal is no longer recognised due to this 'noise'
- Interference radiation resulting from insufficiently shielded electronic devices, for example, operating computers or similar

Please note:

Do not position several radio receivers directly next to each other as these may interfere with each other (minimum distance 0.2 m, we recommend 0.5 m or more).

15. Disposal

When the product is no longer usable, dispose of it in accordance with the applicable statutory regulations.

16. Brief operating instructions

Programming

- Press the button connected to the remote switch for at least 5 seconds.
- Then press the required channel button on the remote control; the button combination on the remote control now controls the remote switch .

Operation using the remote control

- **Switching on**

  Briefly press the right button of the channel occupied by the remote switch.

- **Switching off**

  Briefly press the left button of the channel occupied by the remote switch.

Operation via control buttons

- **Switching on**

  Press the button briefly ➔ Consumer load **on**

- **Switching off**

  Press the button briefly again ➔ Consumer load **off**

17. Declaration of conformity (DOC)

We, Conrad Electronic, Klaus-Conrad-Straße 1, D-92240 Hirschau (Germany), hereby declare that this product complies with the fundamental requirements and other relevant regulations of directive 1999/5/EG.

You can find the declaration of conformity for this product at www.conrad.com.

GB Legal Notice

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